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NATIONAL BUREAU OF STANDARDS

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Letter  
Circular  
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DEAD STORAGE of AUTOMOBILES

Many inquiries are being received concerning storage of the family automobile for the duration, and this letter circular is issued for the purpose of explaining various precautions to be taken and procedures to be followed so that a car may be brought through such a storage period in as good condition as possible.

General

The car should be washed (preferably steam cleaned especially in sections of the country where calcium chloride is used on roads), waxed and then thoroughly lubricated. This lubrication should force any water out of bearings and joints. Waxing will not only protect the paint but help protect the bright work. It will help also to have the chassis and under-body sprayed with oil.

Engine

If the oil has been in the engine over 200 or 300 miles it may contain corrosive materials and should not be left in the engine. The best procedure is to drain the oil while hot; replace with about 3 quarts of fresh oil and run engine at a fast idle 10 to 20 minutes so that this oil is mixed with old oil remaining in the engine. Drain this oil and replace with a gallon of new oil. As an additional precaution a rust inhibitor, obtained from your local oil dealer, may be added to the crankcase oil.

It is very desirable to leave a film of oil covering all parts of the engine especially cylinder walls, rings, valves, and exhaust line interior down to and including the muffler. This can be accomplished readily by the following procedure: Drain the gasoline tank. Take about 1 gallon of the gasoline and thoroughly mix 1 quart of lubricating oil with it. Put the mixture of oil and gasoline back into the empty tank and run the engine at a fast idle on the mixture for 10 or 20 minutes.

The products of combustion are corrosive and should not be left in the engine. The elimination of the products of combustion can be effected by opening the throttle (depressing the accelerator) wide and switching off the ignition when the engine speed gets high leaving the throttle open until the engine stops.

Wasps often carry mud into engines and build nests; hence it is desirable to tie rags over all openings into the engine such as breather pipes and some types of air cleaner.

### Fuel System

If gasoline is left in the fuel system it may form deposits of gum sufficient to interfere with the operation of fuel pump and carburetor when the car is put back in service. For this reason all gasoline should be removed from the fuel system (carburetor, fuel pump, gasoline line and tank).

### Cooling System

The coolant should be drained from the cooling system. Care should be taken that the cylinder block is completely drained especially at the rear end of the engine as this is usually the lowest part. Hose connections should be removed. This will allow the cooling system to dry out and thus reduce rusting.

### Tires

The car should be blocked up securely with the tires deflated, if the storage space is cool and dark; if not, the tires should be removed and stored in a cool dark location with the tubes in them. The tires should not be stacked one on top of another, but they should be placed so as not to be deformed. As an additional precaution soapstone powder can be dusted in the tires and on the tubes. If both tires and wheels are removed, special precaution should be taken to see that the car is adequately supported for safety. The serial numbers of the tires should be recorded for the purpose of tracing them in case of theft.

### Battery

If properly serviced, a battery in good condition might be expected to last for a year or two. It is possible also to store batteries in the moist condition. The chances of saving the average battery for more than a year are not very good and it may be better to sell the battery as is, since lead is very much needed at present. Remove car battery connections and wash under running water until clean, then grease.

### Upholstery

It is very important that the upholstery be protected against dirt and moths. Two or three pounds of paradichlorobenzene crystals or flake naphthalene, scattered by hand over the cushions and in the cracks of the upholstery, will give adequate protection against moths. The car should be closed as tightly as possible. The supply should be renewed when the odor is no longer present in the car.

### Insurance

Do not cancel your fire or theft insurance policies. Most insurance companies have what is known as the suspension indorsement, which will suspend the public liability, property damage and collision coverage and will not necessitate cancellation of the entire policy. This procedure will be advantageous to the policy holder. However, note that the policies do not cover damage resulting from acts of war.

